1-5. (Cancelled)

6. (Previously Amended) A method of delivering a fluid to the heart of a patient, the heart having a coronary vasculature, comprising the steps of:

introducing at least one distal end of at least one perfusion catheter into a peripheral artery of the patient;

advancing the distal end of the perfusion catheter from the peripheral artery into at least one coronary ostium communicating with the coronary vasculature of the patient;

occluding the coronary ostium with an occlusion device;

delivering a fluid to the heart through a lumen of the perfusion catheter; and

maintaining systemic circulation of the patient with peripheral cardiopulmonary bypass.

7. (Previously Amended) The method of claim 6, wherein the maintaining step comprises:

positioning an arterial cannula in a peripheral artery of the patient;

positioning a venous cannula in a peripheral vein of the patient;

withdrawing venous blood from the patient through a blood flow lumen in the venous cannula; and

infusing oxygenated blood into the patient through an infusion lumen in the arterial cannula.

8. (Previously Amended) A method of delivering a fluid to the heart of a patient, the heart having a coronary vasculature, comprising the steps of:

introducing at least one distal end of at least one perfusion catheter into a peripheral artery of the patient;

advancing the distal end of the perfusion catheter from the peripheral artery into at least one coronary ostium communicating with the coronary vasculature of the patient;

occluding the coronary ostium with an occlusion device;

delivering a fluid to the heart through a lumen of the perfusion catheter;

introducing a second distal end of the perfusion catheter through an aortic valve of the heart of the patient; and

venting a left ventricle of the heart by withdrawing fluid through a venting lumen communicating with the second distal end of the perfusion catheter.

9. (Previously Amended) A method of delivering a fluid to the heart of a patient, the heart having a coronary vasculature, comprising the steps of:

introducing a single perfusion catheter having at least two distal ends into the peripheral artery of the patient;

advancing the at least two distal ends into at least two coronary ostia;

occluding each of the at least two coronary ostia with an occlusion device proximate each of the at least two distal ends, respectively; and

delivering a fluid through at least one lumen communicating with the at least two distal ends of the perfusion catheter into the coronary vasculature downstream of the occlusion devices.

10. (Previously Amended) The method of claim 9, further comprising the steps of:

introducing a third distal end of the perfusion catheter through an aortic valve of the heart of the patient;

venting a left ventricle of the heart by withdrawing fluid through a venting lumen communicating with the third distal end of the catheter.

11. (Previously Amended) The method of claim 9, wherein the delivering step comprises delivering the fluid through at least two lumina communicating with the distal ends of the at least two perfusion catheters, respectively, into the coronary vasculature downstream of the at least two occlusion devices.

12. (Previously Amended) The method of claim 11, further comprising the steps of:

introducing a distal end of a venting catheter through an aortic valve of the heart of the patient; and

venting a left ventricle of the heart by withdrawing fluid through a venting lumen communicating with the distal end of the venting catheter.

13-14. (Cancelled)

15. (Previously Amended) The method of claim 11, wherein the introducing step comprises the steps of:

introducing a guide catheter having at least one internal lumen into the peripheral artery of the patient; and

introducing the distal ends of the at least two perfusion catheters through the at least one internal lumen of the guide catheter.

16. (Previously Amended) The method of claim 11, wherein the introducing step comprises the steps of:

introducing a guide catheter having at least two internal lumina into the peripheral artery of the patient; and

introducing the distal end of a first perfusion catheter through a first internal lumen in the guide catheter, and introducing the distal end of a second perfusion catheter through a second internal lumen in the guide catheter.

17. (Currently Amended) ~~The method of claim 1, further comprising the step of:~~ A method of delivering a fluid to the heart of a patient, the heart having a coronary vasculature, comprising the steps of:

a) introducing at least one distal end of at least one perfusion catheter into a peripheral artery of said the patient;

b) advancing the said distal end of the said perfusion catheter from the said peripheral artery into at least one coronary ostium communicating with the said coronary vasculature of the said patient;

c) occluding the said coronary ostium with an occlusion device;

d) infusing a cardioplegic agent through a lumen of the perfusion catheter into the coronary vasculature downstream of the occlusion device; and

e) performing coronary artery bypass graft surgery on the heart of the patient.

18-19. (Cancelled)

20. (Currently Amended) ~~The method of claim 1, further comprising the steps of:~~A method of delivering a fluid to the heart of a patient, the heart having a coronary vasculature, comprising the steps of:

a) introducing at least one distal end of at least one perfusion catheter into a peripheral artery of said the patient;

b) advancing the said distal end of the said perfusion catheter from the said peripheral artery into at least one coronary ostium communicating with the said coronary vasculature of the said patient;

c) occluding the said coronary ostium with an occlusion device;

d) infusing a cardioplegic agent through a lumen of the perfusion catheter into the coronary vasculature downstream of the occlusion device; and

e) introducing a distal end of a venting catheter through an aortic valve of the heart of the patient and venting a left ventricle of the heart by withdrawing fluid through a venting lumen communicating with the distal end of the venting catheter.